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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/885,576

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Charles P. Lin

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EXAMINER

FINEMAN, LEE A

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 09/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/885,576

Applicant(s)

LIN ET AL.

Examiner

Lee Fineman

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17 and 18 is/are rejected.
- 7) ☒ Claim(s) 16 and 19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2, 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the
✓ claimed subject matter “binary masked pattern.” See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).
Appropriate correction is required.

- ✓ 2. The disclosure is objected to because of the following informalities: On page 4, line 14
“S2” should be --S1--.
Appropriate correction is required.

Drawings

3. The drawings are objected to because of the informalities indicated on the attached
“Notice of Draftperson's Patent Drawing Review,” PTO-948. A proposed drawing correction or
corrected drawings are required in reply to the Office action to avoid abandonment of the
application. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 8, 15, and 17 are objected to because of the following informalities:
✓ In claim 8, line 2, “is” is grammatically incorrect and should be --are--.
✓ In claim 15, line 4, the limitation “the corresponding fiber” lacks antecedent basis.
✓ In claim 17, line 1, the limitations “the scrambled image” and “the incoherent fiber” as
well as “the corresponding fibers” in line 5 all lack antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

5. Claims 1-3, 5-6, 8-9, 13, 15, 17-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Hang et al., U.S. Patent No. 6,121,603.

Regarding claims 1-3, Hang et al. discloses a confocal microscope (fig. 6A) with a probe section and imaging section (column 10, lines 10-26) with an incoherent fiber optical bundle in at least one of the sections (79') and wherein the imaging section comprises a line scanning means (fig. 3B) that scans across a proximal end of the element (Ob₂).

Regarding claims 5-6, 8-9 and 13, Hang et al. further discloses an objective lens (80) at the distal end of the element (Ob₁) for focusing a laser beam (30) in the region of interest and where the incoherent fiber bundle (79') between a light manipulation section (32, 75, 73, and 77) and the objective lens (80) scrambles light in that spatial individual fibers at one of the ends of the bundle are randomly scrambled or scrambled in a prescribed pattern relative to that at the other end (column 11, lines 1-12).

Regarding claims 15, 17 and 18, Hang et al. discloses a method for decoding a scrambled image formed by an incoherent fiber bundle comprising the steps of raster scanning, which is a spatially coded pattern, a focused light spot onto one end of the fiber bundle and sequentially reading out a corresponding fiber at the other end of the bundle (column 11, lines 1-12).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hang et al. in view of Richards-Kortum et al. U.S. Patent No. 6,370,422 B1.

Hang et al. discloses the claimed invention except for each end of the fiber bundle being index matched via a window material. Richards-Kortum et al. teaches a confocal microscope with each end of the fiber bundle being index matched via a window material (column 5, lines 35-53). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to index match the ends of the fiber bundle of Hang via window material to reduce reflection.

7. Claims 4, 7, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hang et al. in view of Harris, U.S. Patent No. 5,323,009.

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Hang et al. discloses the claimed invention except for the microscope further comprising a slit aperture disposed in the path of light by scanned across the proximal end of the fiber.

Harris teaches a confocal microscope (fig. 3) with a slit aperture (86,87) disposed in the path of light scanned across the proximal end of the fiber. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a slit aperture with the confocal microscope of Hang et al. to block returning light from the out-of-focus parts of the specimen (column 5, lines 17-21).

Allowable Subject Matter

8. Claims 16 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Claims 16 and 19 are allowable over the prior art for at least the reason that the prior art fails to teach and/or suggest "the step of decoding the scrambled image formed by said first fiber bundle with a second incoherent fiber bundle" as set forth in the claimed combination.

Hang et al., U.S. Patent No. 6,121,603, discloses a method for decoding a scrambled image formed by an incoherent fiber bundle comprising the steps of raster scanning, which is a spatially coded pattern, a focused light spot onto one end of the fiber bundle and sequentially reading out a corresponding fiber at the other end of the bundle (column 11, lines 1-12) as claimed but does not teach decoding the image with a second incoherent fiber bundle.

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Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee Fineman whose telephone number is (703) 305-5414. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on (703) 308-1687. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4900.


LAF

September 3, 2002


MARK A. ROBINSON
PRIMARY EXAMINER